

AIR WAR COLLEGE

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# **CHILEAN STRATEGY TOWARDS ANTARCTICA**

by

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## **Biography**

Lieutenant Colonel Vicente Donoso Herman is a Chilean Air Force Officer assigned to the Air War College, Air University, Maxwell Air Force Base. He graduated from the Chilean Air Force Academy in 1992 as a pilot officer and as Executive Engineer in Aeronautical System (Bachelor Degree). In 2008, he graduated from University Gabriela Mistral with a Master in Human Resources. Finally, in 2014, he graduated from Chile's Command and Staff College.

After receiving his pilot wings, he specialized in transport aircraft and has flown more than 6,000 hours. During his career he has flown several airplanes such as T-35, T-37, DHC-6, KB-707 (Tanker), EB-707 (AWACS), KC-135, and Gulfstream IV. Finally, his last assignments have been the Aviation Group N° 5 in Puerto Montt City, the Aviation Group N° 10 and the Chilean Air War College in Santiago City.

## **Abstract**

This research contrasts the Argentine, British, and Chilean strategies with regard to their overlapping Antarctic territorial claims with the aim to provide a critique of Chilean strategy and to make policy recommendations. The Antarctic Treaty (AT) will come up for review in 2048 and several nations intend to be ready in case this statute is terminated. Chile, therefore, must develop a coherent strategy to protect its interests in Antarctica. This paper first provides an assessment regarding the tension among Chile, Argentina, and the UK, and then suggests three policy options. It examines the problem, legal framework, and claimant strategies in four parts.

The first part provides an update of Antarctica's strategic potential. Multiple geopolitical and economic benefits offer attractive incentives to nations able to establish firm political and territorial integrity. Maritime routes, tourism, and natural resources are the most relevant potentials in the Antarctic continent. The second section describes key legal considerations of the AT in order to recognize the most appropriate approach to face the Antarctic's partition before the International Court of Justice (ICJ). Furthermore, this section describes each territorial claim together with their legal, historic, geological, and geographical arguments. The third part discusses British and Argentina's strategies in order to show that Chile lags behind its two main rivals. This paper contrasts their Antarctic programs, investments and activities. "Active presence" programs are the most important argument for the ICJ with respect to partition.

The last section of this paper analyzes Chile's dilemma when considering a unilateral, bilateral, or multilateral political approach. In short, Chile's strategy must be in coordination with multiple allies to secure its interests, especially with the UK and the United States. To implement an effective and coherent strategy, Chile must leverage its proximity to the Antarctic continent, the expertise of its Armed Forces, and its healthy economic situation.

## Introduction

*“In 2048, a very important international event will occur: The Antarctic Treaty, which stops countries from mining the continent's abundant resources, will come up for review. China - along with the U.S., the U.K., and other countries - intends to be ready.”<sup>1</sup>*

*Kelsey Campbell-Dollaghan – GIZMODO (2 November 2014)*

Since transitioning to democracy in 1988, Chile has been a recognized leader in Latin America due to its rapid economic growth and commitment to democracy. Chile was the first South American nation to join the Organization of Economic Cooperation and Development (OECD) in 2010. Notwithstanding its economic and political achievements, Chile has not properly addressed its Antarctic aspirations, which are extremely important from a long-term strategic perspective. While Chile has been aloof, Argentina and the United Kingdom (UK) have been proactive in seeking to secure their interests, which directly rival Chile's.

Chile trails Argentina and the UK in establishing a strategic vision and has failed to lay foundations with sufficient concrete investments. Most alarming is that multiple Chilean governments have failed to address the forthcoming dissolution of the Antarctic Treaty (AT) in 2048. For instance, Argentina has invested in its Antarctic program, even with its struggling economy. Jack Child contends, “Argentina has been the most active South American nation in Antarctic affairs.”<sup>2</sup> Similarly, the UK has also been visionary and consistent. It was the first nation to claim territory (1908) and maintains the largest program. Chile has not set priorities or invested adequately to defend its interest in Antarctica. This paper assesses the tension among Chile, Argentina, and the UK, and suggests three policy options for the current threat environment. To examine the problem, legal framework, and claimant strategies, this paper tackles the discussion in four sections.

This paper first assesses Antarctica's strategic potential. Multiple geopolitical and economic benefits offer attractive incentives to nations that are able to establish firm political and territorial integrity. Rival states are attracted to its maritime routes, tourism, and natural resources.

The second part describes key legal considerations of the Antarctic Treaty in order to recognize the most appropriate approach to face the Antarctic's partition before the International Court of Justice (ICJ). This section also synthesizes each country's legal, historic, and geological arguments. The third part discusses British and Argentina's strategies and argues Chile lags behind its two main rivals. This paper contrasts their Antarctic programs, investments and activities. It does so because "active presence" is the key argument for the ICJ.

Finally, the last section analyzes Chile's dilemma when considering a unilateral, bilateral, or multilateral approach. Chile's strategy must be in coordination with multiple allies to secure its Antarctic interests. In order to implement an effective and coherent strategy, Chile must leverage its main strengths.

## **The Stakes in Antarctica**

Population growth and the potential scarcity of natural resources may be the most important problems facing humanity. The effects of global warming are creating uncertainty with respect to food and water supplies. Antarctica concentrates a vast quantity of natural resources that may help with these challenges. It also offers geopolitical benefits to nations able to establish firm political and territorial integrity. Chile must carefully consider the risks of failing to execute an effective Antarctic strategy.

### **Geopolitical and Strategic Potential**

Antarctica is a central geographical platform that allows projection into the southern Pacific, Atlantic and Indian Oceans. For instance, the Pacific offers 12,000 kilometers which represents half of the total perimeter of the Antarctic continent (23,680 kilometers).<sup>3</sup> This is crucial when considering the benefits of the “exclusive economic zone,”<sup>4</sup> as any nation possessing coastal lands has “sovereign right for the purpose of exploring and exploiting, conserving and managing the natural resources, whether living or non-living, of the waters superjacent to the seabed and of the seabed and its subsoil.”<sup>5</sup> Control of the Antarctic coast could access nearly fourteen million square kilometers of Antarctic waters in the Pacific Ocean, thirteen in the Atlantic Ocean, and fifteen in the Indian Ocean.<sup>6</sup>

Antarctic is also crucial for transport. There are three maritime routes that connect the Pacific and Atlantic oceans, the Northwest Passage in Canada, the Panama Canal, and the Drake Passage in Chile. The Canadian passage has been virtually impassable due to year-round sea ice and remains unpredictable.<sup>7</sup> The Panama Canal is expanding its capacity urgently due to the large demands of vessels and cargo ships. However, global maritime traffic will increase dramatically in the future and this canal may not be able to sustain such massive transit. Furthermore, natural

disaster or terrorist act could disable it. Hence, the Drake Passage would be the best complement and alternative to the expanded Panama Canal. The potential benefits to Chile in the management of this corridor are numerous. For instance, Antarctic tourism is offering an attractive marketing symbolic value. The International Association of Antarctica Tour Operators (IAATO)<sup>8</sup> statistics shows 26,509 visits between 2011 and 2012<sup>9</sup>, and 37,405<sup>10</sup> between 2013 and 2014. This thirty percent increment offers a great economic opportunity to Chile, because it may also be leveraged to expand tourism in the southern regions of Chile.<sup>11</sup>

### **Economic value**

For thirty years, Chile has relied on its mining wealth. It produces 34% of global copper and 50% of the world's lithium.<sup>12</sup> Chile, however, will become increasingly vulnerable to its dependence on mining. Scholars estimate only 30 more years for its metal reserves.<sup>13</sup> Also, as Corbo notes, "Chile has a fragile energy situation due to the lack of oil and gas reserves."<sup>14</sup> Finally, population growth and global warming will impact Chile unpredictably.

Mineral and energy resources are abundant in Antarctica. Reyno contends the existence of a large amount of minerals in the Antarctic continent such as chromium, cobalt, copper, gold, iron, molybdenum, manganese, nickel, lead, platinum, silver, titanium, uranium, vanadium, and zinc.<sup>15</sup> Furthermore, "the probability of finding mineral deposit is highest on the Antarctic Peninsula. Based on geological studies, the deposits most likely to be found are base metals (copper, lead, and zinc) and precious metals (gold and silver)."<sup>16</sup> Antarctic energy resources offer great potential for coal and hydrocarbons (gas and oil).<sup>17</sup> Indeed, in the Peninsula area, coal is between two and nine meters underground. Gas and oil are also abundant in this region, particularly in the Weddell, Bellingshausen, and Ross Sea.<sup>18</sup>



Marine living resources in the Antarctic seas are also attractive. In the Southern Ocean, there is around 379 million tons of Antarctic krill.<sup>19</sup> This is relevant because only half of the krill is eaten by whales and fish<sup>20</sup> while the rest is legally protected for the health of the ecosystem.<sup>21</sup> In short, the Antarctic sea has one of the densest fish populations on the planet.

Antarctic freshwater is another critical resource that is becoming scarcer. According to the U.S. Geology Survey, only 2.5% of the earth's water is fresh. 68.7% of the world freshwater is frozen in ice. 30.1% is underground and only 1.2% of all freshwater is surface water.<sup>22</sup> Reyno contends that Antarctic freshwater is its most valuable resource as it comprises nearly 24 million cubic kilometers, representing almost 80% of the planet's fresh water.<sup>23</sup> Like hydrocarbons, the densest glacier areas are located in the territory claimed by Argentina, Chile, and the UK.

### **The Antarctic Territorial Claims**

Over time, two points of view dominate the debate on Antarctica's future. "Internationalist" nations like the United States, Soviet Union, Belgium, South Africa, and Japan considered the southern continent as "terra communis," belonging to all, and not subject to appropriation and national sovereignty for any purpose.<sup>24</sup> This view posits that Antarctica is subject to exploitation for the benefit of all humanity through the establishment of the Antarctic Administration. In contrast, advocates of "territorialism" like Argentina, Australia, Chile, France, New Zealand, Norway, and the UK argue that the continent is "terra nullius,"<sup>25</sup> that it has no owner and it can be appropriated and subject to national sovereignty. These nations have advanced formal claims to sectors of the Antarctic continent, whereas the internationalist countries have abstained from making claims -- or recognizing claims made by others -- without renouncing their own possible

rights in the region.<sup>26</sup> Chile must be prepared to face challenges from both “internationalist” and “territorialism” nations.

Due to overwhelming global competition for the Antarctic domain, Chile must first consider Chile’s relationship with the UK and Argentina, whether relations with these nations can be cooperative or adversarial. Great Britain is the most formidable challenger. The British have long argued that they first registered the existence of Antarctic lands in the voyages of Captain James Cook during the reign of King George III (1760-1820).<sup>27</sup> In contrast, Chile has claimed Spanish heritage whose historical archives confirm the first exploration up to parallel 64 S by the Spanish Admiral Gabriel de Castilla who departed from Valparaiso’s port (Chile) in 1603.<sup>28</sup> Ultimately, Argentina has argued that they have demonstrated effective and continuous occupation in the Falklands and South Orkneys Islands since 1904.<sup>29</sup> Yet, all these arguments are frozen by the AT, and are irrelevant to the members of the Antarctic Treaty System.

### **The Antarctic Treaty System (ATS)**

On May 2, 1958, President Dwight D. Eisenhower expressed his concern about the future of Antarctica and proposed to participants of Paris Conference to meet again in the United States in order to establish an Antarctic regime. Twelve nations signed the AT in Washington, DC, on December 1, 1959.<sup>30</sup> Over time, the AT has been adhered by 29 Consultative Parties<sup>31</sup> and 24 Non Consultative Parties.<sup>32</sup>

According to Peter Beck, one of the leading Antarctic scholars in the UK, “The AT was designed to create a legal framework for the containment of both existing and potential politico-legal disputes in order to preserve peace and stability in the region and to promote the cause of science and IGY-type cooperation.”<sup>33</sup> Its fourteen articles seek to ensure that “in the interests of all mankind that Antarctica shall continue forever to be used exclusively for peaceful purposes

and shall not become the scene or object of international discord."<sup>34</sup> To this end it prohibits military activity, except in support of science; prohibits nuclear explosions and the disposal of nuclear waste; promotes scientific research and the exchange of data; and holds all territorial claims in abeyance. The AT is the core of the ATS<sup>35</sup> which applies to the area south of 60° S latitude, including all ice shelves and islands.<sup>36</sup>

Chile's strategy must consider six AT articles relevant for its strategy. Article 1 stipulates that Antarctica shall be used for peaceful purpose only. Military personnel and equipment may be used albeit only for scientific purposes. Article 2 provides freedom of scientific investigation. Article 3 promotes that scientific program plans, personnel, observation, and results shall be freely exchanged. Article 4 defines that the AT does not recognize, dispute, or establish territorial claims. Crucially, it asserts that no new claims shall be asserted while the treaty is in force. Article 7 allows for treaty-state observers to have free access to any area and may inspect all stations, installations, and equipment. Finally, Article 11 defines that disputes are to be settled peacefully by the parties concerned or, ultimately, by the International Court of Justice (ICJ).

The AT appears to be strong enough to achieve its broad objectives. But these can come under pressures due to changes in the international political environment. The Protocol on Environmental Protection<sup>37</sup> designated Antarctica as a "natural reserve, devoted to science and peace"<sup>38</sup> and prohibited all activities relating to Antarctic mineral resources, except for scientific research.<sup>39</sup> Yet, climate change, the growth of world population, and geopolitical rivalries could all threaten the ratification of this Protocol in 2048. The pillars of the AT could erode as countries force change due to economic and political pressures. Crucially, according to Article 11, in case of ratification of the AT, Antarctica shall be opened for accession, and the ICJ would be in charge of adjudicating Antarctica's partitions, including the seven territorial claims.

## Overlapping territorial claims among the UK, Argentina, and Chile

All territorial claims are in “status quo” condition until the AT is terminated.<sup>40</sup> Yet, we must examine Chile’s most immediate rivals. Since the UK, Argentina, and Chile share overlapping territorial claims, they have developed different strategies to ensure its Antarctic aspirations. Chilean strategy seems passive and aloof in comparison to more aggressive British and Argentine approaches.



Figure 1. “Antarctic territorial claims”

Thus, Chile must leverage the protection provided by the status quo window to revise and implement a more active and comprehensive approach. To appreciate this urgency it is important to review territorial claims and arguments of its rivals.

The UK was the first nation that officially claimed Antarctic territory. In 1908, King Edward VII proclaimed Antarctic sovereignty in the South Atlantic Ocean to the south of the 50 degree south (S) parallel, and lying between the 20 and 80 degrees west (W) longitude.<sup>41</sup> In March, 1917, this was amended from 50 degrees S south to 58 degrees S because the area claimed in the 1908 decree was part of South American mainland. So, on March 3, 1962, the UK announced new official boundaries of the British Antarctic Territory (BAT) which was defined between 20 and 80 degrees W and south of 60 degrees S.<sup>42</sup> The BAT has an extension of nearly 700,000 square miles ( $\approx 1.7$  million  $\text{km}^2$ ) which covers the entire Argentine Antarctic Territory and 70% of the Chilean Antarctic territory. The UK contends four arguments to justify its claim. The

crucial ones are “occupation and administrative acts, and presence and scientific activities.” (See Appendix “A”)

With respect to Argentina, Jack Child notes, “The Argentine authorities are deliberately vague about the date when the precise limits of this sector were defined and proclaimed.”<sup>43</sup> In July 15, 1939, Argentina issued the first document related to its Antarctic activities.<sup>44</sup> Between 1940 and 1956, there were intentions to organize an Argentine Antarctic committee, and to establish a post office and radio station. Yet, the only official document that specifies its official boundaries was dated on February 28, 1957.<sup>45</sup> The Argentine territory is defined between 25 and 74 degrees W and south of 60 degrees S.<sup>46</sup> Its surface has nearly 550,000 square miles ( $\approx 1.4$  million  $\text{km}^2$ ). Its entire territory is disputed by the UK and Chile. In order to justify its territorial claim, Argentina relies on eleven arguments. The crucial ones are “permanent occupation, administrative activities, and presence.” (See Appendix “A”)

Finally, on 6 November 1940, President Pedro Aguirre Cerda declared the limits of the Chilean Antarctic Territory (CAT).<sup>47</sup> This territory is defined between 53 and 90 degrees W to the South Pole, and to the north with the Chilean continental territory. The CAT extension is nearly 500,000 square miles ( $\approx 1.2$  million  $\text{km}^2$ ) and it is a province of mainland Chile; its capital city is Punta Arenas.<sup>48</sup> Chile sustains nine arguments to justify its claim. The crucial ones are “occupation and administrative acts, rescue activities, and presence and scientific activities” (See Appendix “A”). Since most of these arguments are similar to the UK and Argentina, it is necessary to review each nation strategies.

## British, Argentine and Chilean Strategies

### British Antarctic Strategy

British strategy is the most coherent and strongest. Its National Security Strategy (NSS) has defined four national interests,<sup>49</sup> and recognized and prioritized two major threats related to Antarctica. First, disruption to oil or gas supplies to the UK. Second, short to medium term disruption to international supplies of resources (i.e. food, minerals) essential to the UK.<sup>50</sup> To protect its national interests, the UK has fourteen overseas territories<sup>51</sup> around the world and the British Antarctic Territory (BAT) is the most extensive.<sup>52</sup>

As Appendix “B” details, the “BAT Strategic Paper” set out objectives and priorities for the “Special Expenditure” provision within the annual estimates of its government for five years. It stipulates that the BAT is administered by the staff in the Polar Regions Unit of the Foreign and Commonwealth Office. The BAT government has its own legislative framework and makes a range of legal and administrative activities, including an advisory body Place-Names and four Post Offices.

The presence in the territory is provided by the British Antarctic Survey (BAS), which operates three scientific stations<sup>53</sup> and the UK Antarctic Heritage Thrust (UKAHT) at Port Lockroy.<sup>54</sup> The BAT budget receives annual revenue from income tax and includes a wide range of key stakeholder<sup>55</sup> to enhance its projects (104).<sup>56</sup>

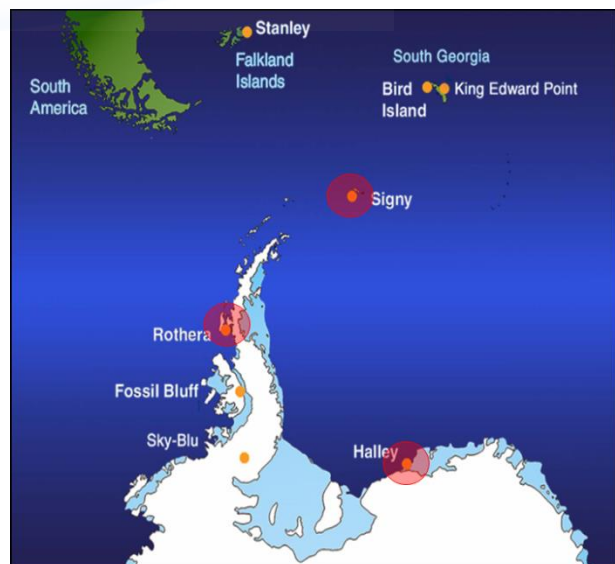


Figure 2. “British scientific stations”



The BAS<sup>57</sup> state objective is to be recognized by 2020, as a world-leading center for polar research and expertise, addressing issues of global importance.”<sup>58</sup> To achieve this vision, its plan sets short, medium and long-term priorities and investment objectives for three years. The BAS budget (2015-2016) is 48,418 £MM<sup>59</sup> ( $\approx$  \$73 million),<sup>60</sup> which is five times greater than the amount invested by Argentina.

### Argentina Antarctic Strategy

Although Argentina has the best energy situation in South America, it too seeks to obtain Antarctic resources.<sup>61</sup> Argentina identifies three strategic objectives that influence its Antarctic strategy, “absolute sovereignty over their territory, national geographic integration, and economic growth and sustainable development.”<sup>62</sup> After losing the Falklands to the UK during the war in 1982, it lost hegemony in the south east Atlantic region. This defeat also weakened geographical arguments to justify their Antarctic claim. Argentina still rejects defeat. Indeed, its Constitution expresses the nation’s determination to recover these islands.<sup>63</sup>

The Antarctic Argentine Policy was created in 1990 in order “to strengthen the Argentine sovereignty rights in the region.”<sup>64</sup> As Appendix “B” illustrates, Argentina established seven prioritized objectives in its Antarctic program. In addition, it stipulates that the Ministry of Foreign Affairs will control the program, and the Ministry of Defense will be responsible for the operational execution and logistical support. Argentina Antarctic presence is provided by six permanent and seven temporary stations.<sup>65</sup>



Figure 3. “Argentine scientific stations”

Its budget receives annual revenue from income tax which is distributed to the National Antarctic Department and Antarctic Scientific Institute. To advance these objectives, Argentina created an annual Antarctic Plan which has 12 programs (93 projects) for 2015. Notwithstanding its poor economic performance, Argentina's budget is 136,386,173 pesos<sup>66</sup> ( $\approx$  \$14 million) or nearly three times more than Chile. Like the UK, Argentina incorporated Antarctica into a coherent strategy with clearly delineated responsibilities for all other national agencies.

### **Chilean Antarctic Strategy**

Unlike its rivals, Chile has no NSS or other document that identifies or defines national interests, threats or priorities. In 2012, there was an intention to publish an NSS where the government proposed national interests.”<sup>67</sup> Yet, the idea floundered due to political disagreements in the Senate.

Chile's Antarctic Policy was published on 28 March 1990.<sup>68</sup> As Appendix “B” shows, it establishes eleven objectives which seek to enforce the ATS, strengthen the national sovereignty, Antarctic institutions, international cooperation, scientific activities and resources conservation, promotes tourism, and markets Chile, as a “bridge” toward Antarctica. Three main actors are involved to achieve these objectives. The Ministry of Foreign Affairs coordinates the execution of the Antarctic plans. The Armed Forces guarantee national sovereignty and facilitate access to the region, and the Chilean Antarctic Institute (INACH) acts as a scientific coordinator center.



Five permanent and eleven temporary stations provide presence in the territory.

The Antarctic Chilean program budget receives annual revenue from income tax which is distributed by the National Antarctic Department to the INACH. To develop its objectives, the government has created an annual Antarctic scientific plan which, as of 2015, has established 98 programs.<sup>69</sup>

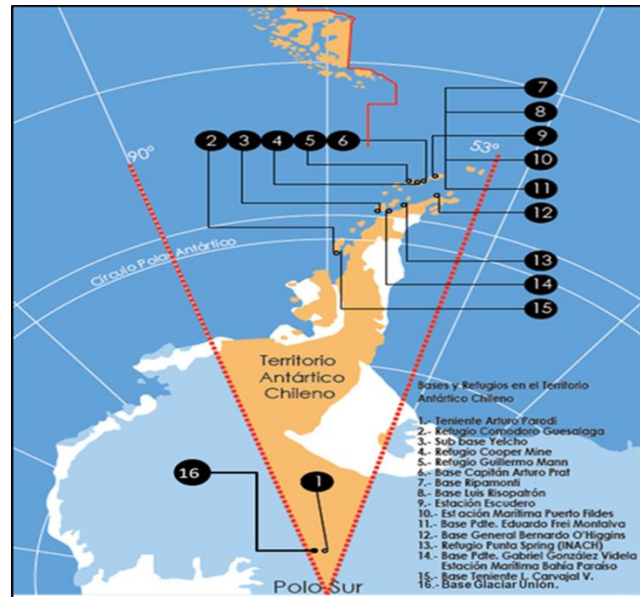


Figure 4. "Chilean scientific stations"

Notwithstanding its healthy economic situation, in contrast to Argentina, Chile has invested the fewest resources among the three claimant nations. Its Antarctic budget for 2015 is 4,134,414,000 Chilean pesos <sup>70</sup> ( $\approx$  5.8 million).<sup>71</sup> To complement this small budget, the Armed Forces provide logistical support.

### Chilean Antarctic Strategic Dilemma

Given the new Antarctic players, the complexity of geopolitical rivalries, and the looming renegotiation of the AT, Chile needs to weigh unilateral, bilateral, or multilateral approaches, if it wants to compete more effectively. A "unilateral strategy" means Chile would insist in keeping the entire Antarctic territory it has claimed since 1959. Thus, it would present arguments at the ICJ, which would be contrasted against those of rival claimants. Yet, there are two main risks. First, either geopolitical<sup>72</sup> or climate changes<sup>73</sup> may nullify all previous arguments and reduce the weight of the international law and institutions. With this approach, Chile risks standing alone in extreme circumstances, left to suffer what it must. Second, according to Klaus Dodds<sup>74</sup> and Peter Beck,<sup>75</sup> the most decisive argument for the ICJ is "active presence." However, what new

argument would be considered if all claimant nations have similar active presence in this area? The answer is simple. According the AT, the key argument would be the amount of Antarctic scientific activities developed and financial investments. In this case, Chile is behind as it has fewer activities and its budgets are significantly lower than the UK's and Argentina's. A unilateral strategy would be too risky for Chile given geopolitical uncertainty, its size, and because it is behind its immediate rivals with respect to investments.

A "bilateral strategy" is complex as well. Chile and Argentina have an agreement to face the British aspirations since 1948,<sup>76</sup> which they have not pursued with vigor. In 1978, they almost went to war ("Beagle conflict") due to the dispute of the Nueva, Picton, and Lennox islands. Other minor conflicts have reduced trust. The most relevant break occurred when Chile supported British forces during the Falkland War (1982).<sup>77</sup>

Some scholars suggest in a British-Chilean Alliance against Argentina. Jack Child states, "In the minds of many Argentine geopolitical analysts the relationship between Chile and Great Britain is suspect and a threat to Argentine interests."<sup>78</sup> In fact, after the Argentine's defeat, Chile received the British Antarctic base at Adelaide Island as a gift, and Chile allowed the UK full access to its facilities on Diego Ramirez Island.<sup>79</sup> In short, although Chile and Argentina have an agreement to face British aspirations in Antarctica, there is little confidence and Chile seems to have made its bed with the British. Conversely, an alliance with the UK would provide a wider international influence. The United States, as a strategic partner on Chile's side, would be helpful to face China and Russia. This option would not be without risk because it would affect Chile's relationship with South American countries that have Antarctic aspirations like Brazil, Colombia, Ecuador, Peru, and Uruguay.

A triple strategy alliance among the UK, Argentina, and Chile would be ideal but it is difficult. Notwithstanding the Falklands War occurred thirty years ago, the political relationship between the UK and Argentina is still distanced and feeble. Argentines still feel deep frustration for losing these islands and seek to restore their hegemony in the South Atlantic area. With the Falklands Islands loss, Argentina also lost arguments to sustain its Antarctic territorial claim. Those arguments now favor the UK.

A “Multilateral Strategy” can be dangerous. As Stephen Walt contends, “Alliances will tend to be less robust in a multipolar world... It will also be more difficult for each state to determine where the greatest threat lies, and international alliances are likely to be more flexible...”<sup>80</sup>

American, Russian, and Chinese presence in Antarctica is not coincidence. As Appendix “C” illustrates, although the most powerful nations of the world did not register territorial claim in the AT, they have taken different strategies towards Antarctica. For instance, the United States has three Antarctic stations; in the Peninsula area (“Palmer”), in Ross Island (“McMurdo”), and its most important center is located strategically at the geographic South Pole (“Amundsen-Scott”).

Russia spread eight stations across Antarctica. Only one center is on the Antarctic mainland (“Vostok”). The other stations are located in front of every ocean around the Antarctic continent.<sup>81</sup> Moreover, China is developing an aggressive strategy. During the last decade, China started a large program to emulate the Russian Strategy and increase its Antarctic stations. In 2014, China established its fourth research station (“Taishan”)<sup>82</sup> and recently announced the decision to build a fifth.<sup>83</sup> Additionally, China is building a second icebreaker ship and setting up research drilling operations on an ice dome 13,422 feet above sea level.<sup>84</sup> Simon Romero contends, “China’s newly renovated “Great Wall” station on King George Island makes the Russian and Chilean bases seem antiquated.”<sup>85</sup>

A multilateral strategy has two risks. First, international alliances may jeopardize Chile's aspirations because its interests could be displaced by the interests of others within an alliance. Second, as Stephen Walt states, "Neither the history of the past 45 years nor the public statements of contemporary leaders offer a reliable guide to the future, and prudence suggests that existing alliance commitments can no longer be taken for granted."<sup>86</sup> In other words, powerful nations can change their priorities due to new global threats. Less powerful nations like Chile can be adversely affected by the decision of these allies.

### **Chilean Strategy towards Antarctica (Recommendations)**

With uncertainty surrounding the AT, it will be difficult for Chile to realize its Antarctic aspirations with an ad hoc strategy. Although Chile has been passive, it has three main strengths. These are its proximity to the Antarctic continent, the capabilities of its Armed Forces, and its healthy economic situation. With these strengths, Chile must try to become *South America's leading nation for Antarctic research and expertise, addressing issues of global importance*.

Chile has the means to achieve and sustain this vision though it will need to increase Antarctic investments and modernize its stations. Hence, Chile should establish three priorities to achieve its Antarctic objectives. First, Chile must establish a National Strategy where all instruments of national power interact in the same direction to defend concrete national interests. Chile neither has declared national interests nor defined a political strategy to protect its Antarctic claim. Arguably, the Armed Forces and INACH are the only entities behind its Antarctic program. In addition, Chile must define an approach to alliances in pursuit of its objectives. The UK and Argentina threaten Chilean aspirations, but collaboration with the British might be possible. Although there still is a feud between the UK and Argentina, Chile's long-

term strategy must seek a trilateral approach with these nations. Thus, Chile has two basic goals to achieve. First, due to the new Antarctic players and geopolitical changes, Chile must persuade Argentina and the UK to change their Antarctic unilateral approaches to a multilateral approach. Second, Chile must encourage reconciliation between Argentina and the UK. Meanwhile, Chile's mid-term strategy must offset its lack of investments, enhance Antarctic influence, and promote that the AT is extended beyond 2048. The "status quo" provided by the AT is essential.<sup>87</sup> Chile needs time to correct previous policy shortcomings. This legal umbrella allows Chile at least some time to develop a better strategy towards Antarctica, and specially to concrete a trilateral strategy. In short, Chile must encourage Argentine and British governments to tackle threats together. While the irreconcilable relation still exists between these nations, Chile must define its strategic vision. A coherent approach must offset the British Antarctic Survey vision;<sup>88</sup> thus, considering Chile's strengths, its vision must try *to be the world-leading nation for logistical, environmental, and search and rescue (SAR) operations*.

Second, Chile has to drastically increase its Antarctic budget. Chile has invested fewer financial resources than the UK and Argentina. In fact, its Armed Forces must support the logistical requirements because the Antarctic budget is entirely assigned to scientific activities. Chile has to expand resources for the Armed Force, so they can also support international operations in the Antarctic seas. Since 2013, the Chilean icebreaker ship "Admiral Viel" (1969) has been often out of service causing serious problems for provisioning the Antarctic stations. The ports' infrastructure presents similar challenges. In order to receive more and larger international ships in the port of Punta Arenas city, and provide logistical services, it is necessary to improve and enlarge its facilities. Similar upgrades are needed at this city's airport. Moreover, the Chilean Air Force is the military service with the most active Antarctic participation. Yet, its

main Antarctic Base (“President Eduardo Frei Montalva”) only has one airplane (DHC-6) and one helicopter (Bell-412) which are not sufficient to cover a large air SAR operation.

Third, according to the AT guidelines, the scientific development will be vital before the ICJ. Scientific activities are the best way to obtain positive effects in the international realm. Chile needs to keep developing its science program. INACH has been actively developing, promoting, and supporting the scientific program. David Walton and John Dudeney conclude (See Figure 5) that Chile is one of the four nations that has accomplished the most science projects during the last decade.<sup>89</sup> Yet, the UK and Argentina are still doing better. Hence, by 2020, Chile has to increase the scientific projects and promote its activities abroad in order to become *the South American Leader in Antarctic Science*.

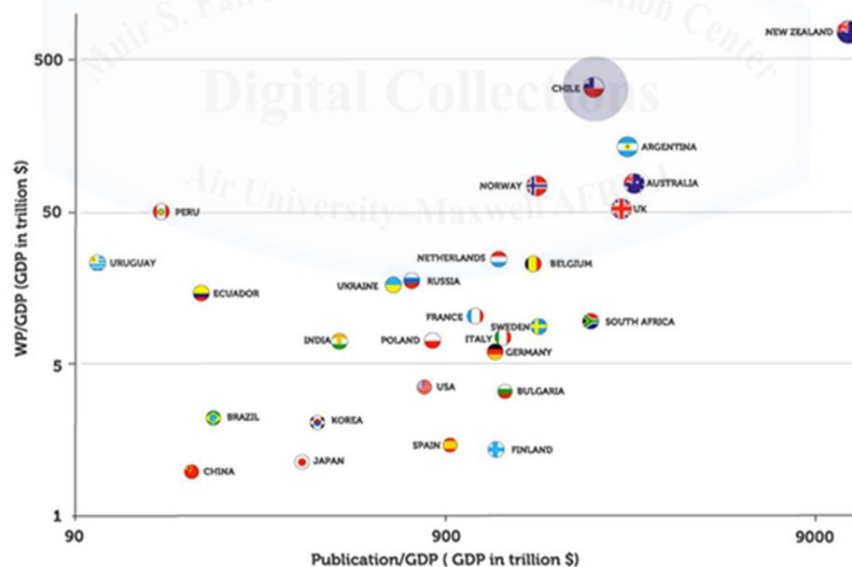


Figure 5. “WP/GDP vs. Antarctic Publications”

## Conclusion

After signing the Antarctic Treaty in 1959, Chile has demonstrated excessive confidence in its arguments with respect to Antarctica. Chile's Armed Forces and national scientific organization have maintained an active presence in Antarctica. Argentina and the UK have also maintained an active presence, but have invested more financial resources, extended their programs, and demonstrated coherent strategies to achieve their interests. Nonetheless, Chile still has time to implement a more coherent Antarctic strategy. In order to offset its previous behaviors, Chile first needs to increase its investment in Antarctica. In parallel, it must define a mid-term strategy that enhances its Antarctic influence and fosters an extension of the AT. Yet, given the uncertain geopolitical threats, it is imperative to build a long-term strategy and alliance with the UK and Argentina while recognizing the important role of U.S. advocacy.

Argentina, Chile and the UK need the United States as a strategic partner. Powerful nations like Russia and China are developing aggressive strategies in case the AT is terminated in 2048. Chile must encourage this alliance because, as Robert Kagan notes, Russia and China are declining and the United States shows a more predictable, cooperative, and healthy role in the world.<sup>90</sup> In short, although these three nations conduct different Antarctic strategies, they share the same threats. An alliance with Argentina and the UK would bring two benefits. Friendly relations with Argentina will promote stability in the region. The UK and the United States share a special relationship, thus an alliance with the UK would possess robust international influence.



## Appendix “A”

### “BRITISH, ARGENTINE, AND CHILEAN ANTARCTIC ARGUMENTS”

#### I. THE UNITED KINGDOM

ARGUMENTS	BASIS
<ol style="list-style-type: none"> <li>1. Discovery and Early Exploration</li> <li>2. Occupation and Administrative Acts</li> <li>3. Presence and Scientific Activities</li> <li>4. Geopolitical and Strategic Significance</li> </ol>	<p>“The root of the UK’s title to the islands and territories comprising the British Antarctic territory lies in British acts of discovery between 1819 and 1843, accompanied by formal claims in the name of the British Crown. British sovereignty over these islands and territories was formally confirmed and defined by the Crown in Letter Patent in 1908 (as amended by further Letter Patent in 1917). Since then there has been in regard to the islands and territories now comprising the British Antarctic Territory a continuous display of British sovereignty and activity appropriate to the circumstances.”</p>
<p><b>Source:</b> International Court of Justice, “Pleadings, Oral Arguments, Documents: Antarctic Cases (United Kingdom v. Argentina; United Kingdom v. Chile),” orders of March 16, 1956.</p>	<p><b>Source:</b> Peter J. Beck, “The International Politics of Antarctica”, (New York, NY: St. Martin’s Press), 1986, 122.</p>

#### II. ARGENTINA

ARGUMENTS	BASIS
<ol style="list-style-type: none"> <li>1. Inheritance</li> <li>2. Discovery and Early Exploration</li> <li>3. Propinquity</li> <li>4. Geological continuity</li> <li>5. Rescue Activities</li> <li>6. Permanent Occupation</li> <li>7. Administrative Activities</li> <li>8. Scientific and Technical Activities</li> <li>9. Presence</li> <li>10. Geopolitical and Strategic Significance</li> <li>11. The Sector Theory.</li> </ol>	<p>“Argentine sovereignty over the territory is based on deep-rooted historical rights- maintained firmly in every circumstance by the Argentine governments- which are spiritually identified with the feeling of the entire people of the nation; on the superior geographical position of the Republic; on the geological continuity of its land with the Antarctic territories; on the climatological influence which the neighboring polar zones exercise on its territories; on the rights of first occupation; on the necessary diplomatic action, and finally, on its uninterrupted activities in the Antarctic territory itself.”</p> <p>“Effective and continuous occupation has gone on since 1904 (in the South Orkneys)... our country is the only one which (in 1940) has lived there for 37 years.”</p>
<p><b>Source:</b> Jack Child, “Antarctica and South American Geopolitics: Frozen lebensraum, (New York, NY: Praeger Publishers), 1988, 68-70.</p>	<p><b>Source:</b> Peter J. Beck, “The International Politics of Antarctica”, (New York, NY: St. Martin’s Press), 1986, 119.</p>



### III. CHILE

ARGUMENTS	BASIS
<ol style="list-style-type: none"> <li>1. Inheritance</li> <li>2. Discovery and Early Exploration</li> <li>3. Propinquity</li> <li>4. Geological and Geophysical Continuity</li> <li>5. Occupation and Administrative Acts</li> <li>6. Rescue Activities</li> <li>7. Presence and Scientific Activities</li> <li>8. Geopolitical and Strategic Significance</li> <li>9. The Quadrant/ Sector Theory</li> </ol>	<p>“Our country holds the oldest rights of sovereignty on this territory; as established in the first place by Spain, and then later, throughout our life as a Republic, by successive acts of our government and the uninterrupted exercise of such sovereignty.” “The boundaries of Chile in said polar region constitute a natural prolongation of the national soil (and are based on) historical data (e.g. Acts and discoveries by Spain)... geographic continuity of the Chilean Antarctic as regards the southern end of the American continent...geographic contiguity (e.g. Geological link)...scientific factors (e.g. Climatic and glaciological influences)... sector theory...different manifestations of sovereignty represented by the acts of occupation realized throughout our history...diplomatic facts...administrative antecedents.”</p>
<p><b>Source:</b> Jack Child, “Antarctica and South American Geopolitics: Frozen lebensraum, (New York, NY: Praeger Publishers), 1988, 108-110.</p>	<p><b>Source:</b> Peter J. Beck, “The International Politics of Antarctica”, (New York, NY: St. Martin’s Press), 1986, 121.</p>

## Appendix “B”

### “ANTARCTIC STRATEGIC OBJECTIVES AND/OR PRIORITIES”

#### I. UNITED KINGDOM\*

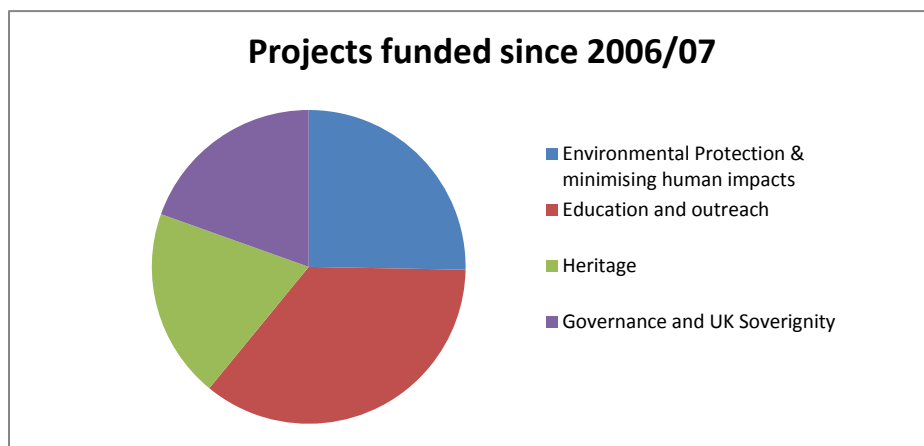
##### A. Headline Objectives for 2014-2019.

To support security and good governance of the territory, we have set the following five overall strategic objectives:

1. To ensure the long-term security of the Territory by supporting the United Kingdom’s high profile within the Antarctic Treaty System;
2. To promote the United Kingdom’s sovereignty of the Territory, including by increasing awareness of British current and historic interests in the region;
3. To protect the Territory’s environment and preserve British heritage;
4. To ensure an effective and proportionate legislative and administrative framework which addresses all activities conducted within the Territory; and
5. To manage the Territory’s finances in accordance with the best financial practice.

##### B. Priority areas for financial support.

Since 2006, UK has defined four priority areas (visions): 1) Environmental protection; 2) Education and outreach; 3) Heritage; and 4) Governance have been considered to represent the focus of the Territory’s objectives and the Government of the British Antarctic Territory.



\* Source: UK government, “British Antarctic Territory: Strategy 2014-2019, (2014). Pages 2-3

## **II. ARGENTINA\*\***

### **A. Headline Objectives.**

1. Strengthen the Antarctic Treaty and its system (ATS).
2. To increase Argentina influence in the decision making process of the treaty and its system.
3. As part of the National Policy for Latin American Integration, promote cooperation with the countries of the region, including those carrying out joint activities in order to strength common interests.
4. To promote the protection of the Antarctic environment and its dependent and associated ecosystems.
5. To promote the conservation of fishery resources and the preservation of mineral resources in the areas of the treaty and its system.
6. Continue to deepen the scientific and technological knowledge in those areas directly related to the Argentine Antarctic priorities.
7. To achieve a greater efficiency of the Argentine presence, focusing on supporting national scientific and technological activity, providing services to other countries and gaining knowledge to facilitate their Antarctic tasks, where it is politically advisable.

### **B. Priorities.**

1. To develop an Antarctic scientific and technical plan.
2. Service provisions.
3. Based on the criteria of the National Foreign Policy, associate with the appropriate countries to promote the use of ports, airports and services in support of Argentine Antarctic activities of these countries.
4. Active participation in the inspection and verification tasks under the Antarctic Treaty and its system.
5. Promoting the objectives of the Antarctic Treaty in scientific and technological cooperation way.
6. Strengthen the link between Patagonia, particularly Tierra del Fuego and the Argentine Antarctic Sector.
7. The adequacy of national legislation with international obligations under the Antarctic Treaty and its system (ATS).

\*\*Source: Republic of Argentina, Decree N° 2316/1990, “Argentine Antarctic National Policy.” (1990). Pages 2-3.

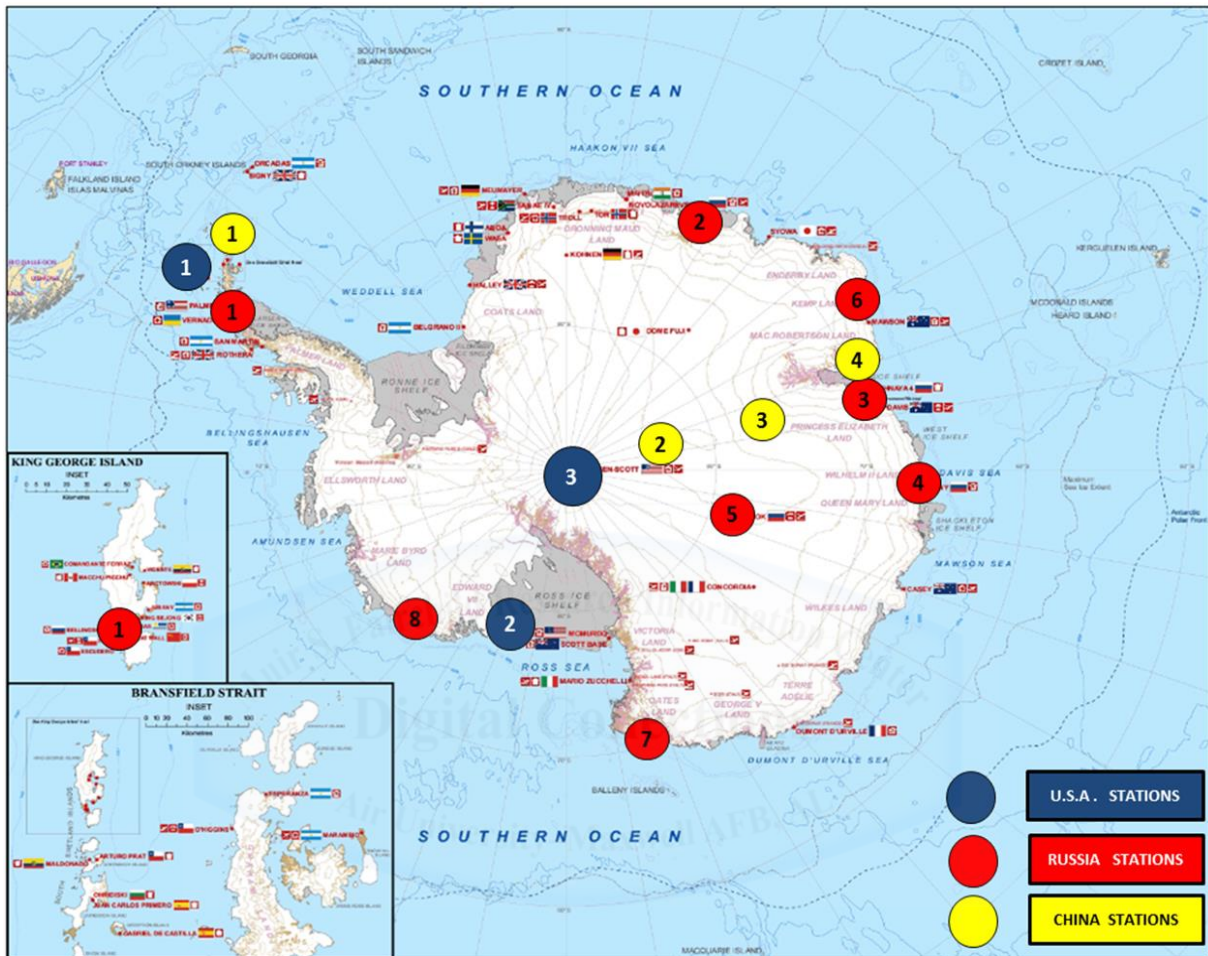
### III. CHILE.\*\*\* (Headlines Objectives for 2015-2019 only)

1. In accordance with international law, contribute to the preservation of the territorial integrity and political independence of the Republic of Chile.
2. Implement an active diplomacy to promote regional integration through initiatives and alliances that seek convergence among states, agencies and stakeholders, recognizing the existence of diverse development models, mechanisms and instruments in our hemisphere.
3. Strengthen Chilean Multilateral Foreign Policy through an active diplomacy in support of Peace and Intl Security, full respect for Democracy and Human Rights, and the promotion of sustainable development with equity, in all areas.
4. Contribute to the global integration of the Chilean economy, creating new business opportunities, implementing and deepening trade agreements and supporting exports, paying special attention to small and medium enterprises.
5. Promote and defend the recognition of the rights of Chileans abroad and develop an immigration policy based on full respect of International Human Rights Law.
6. Provide Consular assistance and protection to Chilean citizens abroad and assist users of Chilean consular services in Chile and overseas.
7. Insure coordination for the implementation of our National Policy for Antarctica, in order to strengthen and increase the influence of Chile in the Antarctic Treaty System. Promote the interests of Chile as an Antarctic country, particularly through a national scientific program, in line with the latest research trends.
8. Strengthen the Chilean capacity as a "bridge" between countries and regions; promote policies, initiatives and strategic ties -at a sub-regional, regional and global level - to achieve national objectives of economic and human development. Particularly, foster actions focused on Educational, Scientific and Technological development of the country.
9. Bolster our Cooperation for Development policy, a central element of foreign policy, through the promotion of cooperation initiatives and mechanisms directed toward Chile, at the bilateral and multilateral level, while promoting South-South and Triangular Cooperation toward, but not exclusively, Latin America and the Caribbean, contributing thereby to national development and regional integration.
10. Update the structure and management mechanisms of the Ministry of Foreign Affairs, in order to accomplish Foreign Policy objectives and respond to the global challenges. Such a structure and mechanisms must promote a National System of Foreign Policy, whereby private and public actors interact and implement.
11. Coordinate and shape public and private actions which impact upon Foreign Policy.

\*\*\*Source: "Strategic Objectives of the Ministry of Foreign Affairs of Chile (2015-2019)," Pages 1-2. Ministerio de Relaciones Exteriores de Chile. "Quincuagésima Primera Reunion del Consejo de Política Antártica: Proyecto de Plan Estratégico Antártico 2015-2019." (Punta Arenas, Chile: INACH, 16 december 2014). (Chile does not set priorities)

## Appendix “C”

### “AMERICAN, RUSSIAN, AND CHINESE RESEARCH STATIONS IN ANTARCTICA”



COUNTRY	N°	RESEARCH STATION	STATUS
UNITED STATES	1	Palmer	Permanent
	2	McMurdo	Permanent
	3	Amundsen-Scott	Permanent
RUSSIA	1	Bellingshausen	Permanent
	2	Novolazarevskaya	Permanent
	3	Mirni	Permanent
	4	Progress	Permanent
	5	Vostok	Permanent
	6	Molodznaya	Temporal
	7	Leningradskaya	Temporal
	8	Russkaya	Temporal
CHINA	1	Great wall	Permanent
	2	Kunlun	Permanent
	3	Taishan	Permanent
	4	Zhongshan	Permanent

## **Appendix “D”**

### **"THE MOST RELEVANT STRENGTHS AND WEAKNESSES"**

#### **I. The U.K.**

##### **A. Strengths**

1. British National Security Strategy identifies risks and threats; the nation is aware of current and future tendencies. It establishes Antarctic guidelines from its national interests. Its strategies align with each other. Other national policies support its Antarctic Strategy.
2. It has multiple alliances both regional and international (i.e. NATO, European Union, and with the United States of America) to expand its international influence.
3. Government administrations promote a national Antarctic identity.
4. Its Antarctic strategy pursues a vision and prioritized objectives. Its Antarctic strategy is flexible and dynamic. It is updated every five years.
5. The three British research stations are well-equipped and supported. The UK's budget is provided by the government, other national organizations, and sponsors. The UK integrates all entities to support and enhance its Antarctic Plan. For instance, planning continues on the BAS Innovation Centre that is being developed jointly by BAS and Cambridge University.

##### **B. Weaknesses**

- The lengthy distance between British mainland and the Antarctic continent causes an economic impact on its Antarctic Plan because of the increasing cost of its Antarctic operations and expeditions. For this reason, every year this nation tries to obtain financial resources to sustain its Antarctic Plan.

#### **II. Argentina**

##### **A. Strengths**

1. Like the UK, Argentina establishes prioritized objectives to defend its Antarctic aspirations.
2. There is Antarctic awareness at the political level. This is demonstrated by the increasing financial resources to sustain its Antarctic program despite its current poor economy. It is the South American country with the largest amount of scientific projects.
3. Its Constitution aligned all its policies to support the Antarctic national interests.
4. Unlike the UK and Chile, Argentina can prove Antarctic presence since 1904 after receiving a Meteorological Station in Laurie Island (Orkneys Islands) as a donation from the Scottish scientific William Bruce.
5. It has the best port in South America (Ushuaia's port); it is a bigger port and better equipped to receive international ships.



## **B. Weaknesses**

1. After losing the Falkland War, Argentina also lost dominance in the southeastern Atlantic area of the South American continent. Thus, most of its Antarctic geologist arguments do not belong entirely to this country anymore.
2. Argentina has a weak international image because of its poor economic situation.
3. Most of its alliances are regional so that its international influence is limited.

## **III. Chile**

### **A. Strengths**

1. Chile's mainland is the nearest to the Antarctic continent; thus, it is less expensive to develop the Antarctic program. Furthermore, because of the proximity, this nation can react faster than any other before any emergency in the South American Antarctic area. Its national science institute is located in Punta Arenas; hence, all the scientific equipment can be easily transported, and the research can be conducted at a low cost. Finally, Antarctic tourism can be expanded to the southern region of Chile (Magallanes) and vice versa.
2. Chilean Armed Forces has vast experience on Antarctic expeditions. This is also true of scientific researchers and outcomes (INACH).
3. Chile has one of the best economic situation in South America, and its international image is seen as an example for other countries. Furthermore, it is a member of the United Nations Security Council (International influence).
4. Currently, Chile is considered the main Latin-American Bridge between the American mainland and King George Island, where most of the Antarctic stations are located. Chile administrates the only paved runway in the area (Lt. Rodolfo Marsh - King George Island).
5. It has several Antarctic bases throughout the claimed area. Chile's cartography of the Antarctic is the most detailed in the world.

### **B. Weaknesses**

1. Chile does not possess a political awareness of current and future threats. It does not have national interest, vision, and priorities; hence, the Antarctic policy is isolated of the other instrument of the national power.
2. Over time, Chile has not invested adequately to support its Antarctic programs.
3. The Chilean strategic plan does not have a vision and priorities. Chile's Antarctic budget relies only on the government income; it does not consider support from private entities.
4. Chile's Antarctic stations are old; due to an insufficient budget, it is hard to develop proper maintenance programs.
5. Chilean Navy icebreaker ship "Admiral O. Viel" is old and uses to be inoperative.

## END NOTES

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- <sup>1</sup> Kelsey Campbell-Dollagan, GIZMODO: “China’s New Research Station and the quiet rush to claim Antarctic” (November 2, 2015). <http://www.gizmodo.com/chinas-new-research-station-and-the-quiet-rush-to-clai-1520284196> (Access on November 30, 2015)
- <sup>2</sup> Jack Child, “Antarctica and South American Geopolitics: Frozen lebensraum, (New York, NY: Praeger Publishers), 1988, 65.
- <sup>3</sup> Manuel Reyno, Escenarios futuros, riesgos y oportunidades para Chile en la Antártica a largo plazo, <http://www.eumed.net/cursecon/ecolat/cl/2008/mrm.htm> (Access on October 15, 2015)
- <sup>4</sup> The exclusive economic zone is an area beyond and adjacent to the territorial sea (200MN from the baseline from which the breadth of the territorial sea is measured), subject to the legal regime established in this Part, under which the right and jurisdiction of the Coastal State and the rights and freedoms of other States are governed by the relevant provisions of this Convention. United Nation, U.N. Convention on the Law of the Sea (UNCLOS), (Jamaica: U.N.) 1982, Article 55 and 57.
- <sup>5</sup> Any nation possessing coastal lands has “sovereign right for the purpose of exploring and exploiting, conserving and managing the natural resources, whether living or non-living, of the waters superjacent to the seabed and of the seabed and its subsoil, and with regard to other activities for the economic exploitation and exploration of the zone, such as the production of energy from the water, current and winds.” Ibid, Article 56.
- <sup>6</sup> Manuel Reyno, Escenarios futuros, riesgos y oportunidades para Chile en la Antártica a largo plazo, <http://www.eumed.net/cursecon/ecolat/cl/2008/mrm.htm> (Access on October 15, 2015)
- <sup>7</sup> Hogart King, “What is the Northeast Passage?” Geoscience News and Information, 2014 <http://www.geology.com/articles/northwest-passage.shtml> (Access on October 20, 2015)
- <sup>8</sup> IAATO is an international organization, comprised of more than 100 respected companies and organizations from Argentina, Australia, Belgium, Canada, Chile, France, Germany, Italy, Japan, Netherlands, New Zealand, Norway, People’s Republic of China, Russia, South Africa, Sweden, Switzerland, United Kingdom, and United States. <http://www.iaato.org/who-is-iaato> (Access on October 21, 2015)
- <sup>9</sup> IAATO, “2011-2012 Tourists by Nationality”, <http://iaato.org/tourism-statistics> (Access on October 21, 2015)
- <sup>10</sup> Ibid.
- <sup>11</sup> Tourism expansion in the southern regions of Chile is feasible as the most visited area is the Antarctic Peninsula. Yet, this area is disputed by Argentina, Chile, and the UK. IAATO, Tourism Overview: Tourism Statistics, <http://iaato.org-overview> (Access on October 21, 2015)
- <sup>12</sup> KPMG Global Mining Institute, Chile: Country mining guide, 2014. <http://www.kpmg.com/miningamericas> (Access on October 25, 2015)
- <sup>13</sup> Leyla Luques, Universidad Austral de Chile, Ex Ministro de Hacienda, Andres Velasco en FACEA UACH: “El problema de Chile es que somos muy dependientes del cobre. (12. November 2014)” <http://www.economicas.uach.cl/index.php/noticias-facea/item/803-ex-ministro-de-hacienda-andr%C3%A9s-velasco-en-facea-uach-%E2%80%99El-problema-de-chile-es-que-somos-muy-dependientes-del-cobre%E2%80%99D> (Access on October 25, 2015)
- <sup>14</sup> Vittorio Corbo y Agustin Hurtado, “Causas y consecuencias del problema energético en Chile: Una visión desde la macroeconomía” Vol. 382 (November 2014). <http://www.cepchile.cl> (Access on October 25, 2015)
- <sup>15</sup> Manuel Reyno, Escenarios futuros, riesgos y oportunidades para Chile en la Antartica a largo plazo, <http://www.eumed.net/cursecon/ecolat/cl/2008/mrm.htm> (Access on October 15, 2015)
- <sup>16</sup> U.S. Congress, Office of Technology Assessment, Polar Prospects: A Mineral Treaty for Antarctica, OTA-O-428 (Washington, DC: US Government Printing Office), 1989, 93-99.
- <sup>17</sup> Geologists estimate that Antarctica holds at least 36 billion barrels of gas and oil. Sergio Romero, The New York Times: “Country rush for upper hand in Antarctica”. December 29, 2015.
- <sup>18</sup> Jackie M. Aislabie, Megan R. Balks, Julia M. Foght, and Emma J. Waterhouse, Hydrocarbon Spill on Antarctic Soils: Effects and Management. Environmental, Science and Technology, Vol. 38, N° 5, 2004. [http://www.landcareresearch.co.nz/publications/researchpubs/Aislabie\\_et al\\_hydrocarbons\\_EST\\_2004.pdf](http://www.landcareresearch.co.nz/publications/researchpubs/Aislabie_et al_hydrocarbons_EST_2004.pdf)



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- <sup>19</sup> Commission for the Conservation of Antarctic Marine Living Resources (CCAMLR), Krill fisheries and sustainability: Antarctic krill, <http://www.ccamlr.org/en/fisheries/krill-fisheries-and-sustainability> (Access on October 10, 2015)
- <sup>20</sup> There are nearly 200 species of fish in the Antarctic seas. University of Wisconsin-Madison, Ice Cube, South Pole Neutrino Observatory, "Antarctic Animals." <http://icecube.wisc.edu/pole/animals> (Access on October 10, 2015)
- <sup>21</sup> For instance, the total human allowable catch for the Southwest Atlantic is about 5.6 million tons and total annual catch is around 0.3% of the unexploited biomass of krill. Ibid.
- <sup>22</sup> USGS: Science for a changing world, "The USGS Water Science School: The World's Water", <http://www.usgs.gov/edu/earthwherewater.html> (Access on October 21, 2015)
- <sup>23</sup> The densest areas of glaciers and icebergs in Antarctica are in the Weddell, Bellingshausen and Ross seas. Manuel Reyno, "Escenarios futuros, riesgos y oportunidades para Chile en la Antártica a largo plazo." <http://www.eumed.net/cursecon/ecolat/cl/2008/mrm.htm> (Access on October 20, 2015)
- <sup>24</sup> In any case, these divisions were sharpened after the 1970s by the emergence of a new and alternative legal approach focused upon to deny the validity of existing claims to "**terra communis**" but also to question the international acceptability of the Antarctic Treaty System. This new legal approach, underlain by various political factors in favour of a Universalist approach to such areas of Antarctica, fostered suggestions that the treaty system should be replaced by a more representative international regime." Peter J. Beck, "The International Politics of Antarctica", (New York, NY: St. Martin's Press), 1986, 115.
- <sup>25</sup> "In an area of "**terra nullius**", a no- man's land, international law stressed effective occupation as a key criterion of sovereignty." Peter J. Beck, "The International Politics of Antarctica", (New York, NY: St. Martin's Press), 1986, 113.
- <sup>26</sup> Luis Merico, "Antarctica: Chile's claim", (Washington, DC: National Defense University Press Publications), 1987, 49-59.
- <sup>27</sup> Klaus Dodds, "Pink Ice: Britain and South Atlantic Empire", (London, UK: I.B. Tauris Publishers), 2002, xvii.
- <sup>28</sup> Luis Merico, "Antarctica: Chile's claim", (Washington, DC: National Defense University Press Publications), 1987, 94.
- <sup>29</sup> Peter J. Beck, "The International Politics of Antarctica", (New York, NY: St. Martin's Press), 1986, 119.
- <sup>30</sup> The twelve nations were Argentina, Australia, Belgium, Chile, France, Japan, New Zealand, Norway, South Africa, the United Kingdom, the United States, and U.S.S.R. Secretariat of Antarctic Treaty, "The Antarctic Treaty," (ATS, 1959). <http://www.ats.aq/e/ats.htm> (Access on October 5, 2015)
- <sup>31</sup> **Consultative Parties:** Argentina, Australia, Belgium, Brazil, Bulgaria, Chile, China, Czech Republic, Ecuador, Finland, France, Germany, India, Italy, Japan, Korea (ROK), Netherlands, New Zealand, Norway, Peru, Poland, Russian Federation, South Africa, Spain, Sweden, Ukraine, United Kingdom, United States, and Uruguay. Consultative Parties can participate in the Consultative Meetings during such times as they demonstrate their interest in Antarctica by conducting substantial research activity there. The Scientific Committee on Antarctic Research, "Antarctic treaty System." <http://www.ats.aq/devAS/ats.aspx?lang=e> (Access on October 5, 2015)
- <sup>32</sup> **Non- Consultative Parties:** Austria, Belarus, Canada, Colombia, Cuba, Denmark, Estonia, Greece, Guatemala, Hungary, Iceland, Kazakhstan, Korea (DPRK), Malaysia, Monaco, Mongolia, Pakistan, Papua New Guinea, Portugal, Romania, Slovak Republic, Switzerland, Turkey, and Venezuela. Non- Consultative Parties are invited to attend the Consultative Meetings but do not participate in the decision-making. The Scientific Committee on Antarctic Research, "Antarctic treaty System." <http://www.ats.aq/devAS/ats.aspx?lang=e> (Access on October 5, 2015)
- <sup>33</sup> IGY stands for International Geophysical Year. Peter J. Beck, "The International Politics of Antarctica", (New York, NY: St. Martin's Press), 1986, 114.
- <sup>34</sup> ATS, "Antarctic Treaty", (Washington, DC: The White House), December 1, 1959, 6.
- <sup>35</sup> The AT is complemented by recommendations adopted at Consultative Meetings (ATCM), by the Protocol on Environmental Protection to the Antarctic Treaty (1991), and by two separate conventions dealing with the Conservation of Antarctic Seals (1972) and the Conservation of Antarctic Marine Living Resources (1980). The Convention on the Regulation of Antarctic Mineral Resource Activities (1988) will not enter into force. During each ATCM, there is also a meeting of the Committee for Environmental Protection. Thus, the AT is the core of

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- the ATS and it includes the whole complex of arrangements made for regulating relations among states in the Antarctic. <http://www.scar.org/antarctic-treaty-system> (Access on October 7, 2015)
- <sup>36</sup> <http://www.scar.org/antarctic-treaty-system> (Access on October 7, 2015)
- <sup>37</sup> Although this Protocol was signed in 1991, it entered in force in 1998 and it will be valid for only 50 years (2048).
- <sup>38</sup> ATS, "Protocol on Environment Protection to the Antarctic Treaty", (Madrid, Spain), 1991, Article 2.
- <sup>39</sup> Ibid, Article 7.
- <sup>40</sup> The AT states, "No new claim or enlargement of an existing claim, to territorial sovereignty in Antarctica shall be asserted while the present treaty is in force." ATS, "Protocol on Environmental Protection to the Antarctic Treaty," (Madrid, Spain), 1991, Article 4.
- <sup>41</sup> "The groups of islands known as the South Georgia, South Orkney, South Shetlands, and the Sandwich Islands, and the territory known as Graham's land, situated in the South Atlantic Ocean to the south of the 50<sup>th</sup> parallel of south latitude, and lying between the 20<sup>th</sup> and 80<sup>th</sup> degrees of west longitude, are part of our Dominions, and it is expedient that provisions should be made for their government as Dependencies of our Colony of the Falklands". Cambridge University Press, "British Letter of 21 July 1908", Polar Record / Vol. 5 / Issue 35-36 / December 1948, pp 241-243
- <sup>42</sup> This area included the mainland sector center on Graham Land, plus the South Orkneys and South Shetlands. Peter Beck, "The International politics of Antarctica", (New York, NY: St. Martin's Press), 1986, 122.
- <sup>43</sup> Jack Child, "Antarctica and South American Geopolitics: Frozen lebensraum, (New York, NY: Praeger Publishers), 1988, 67.
- <sup>44</sup> The Decree 35,821, dated on Jul 15, 1939, authorized the establishment of an advisory committee in connection with the Congress of Polar Exploration organized by the Norwegian government. Republic of Argentina, "Decree N° 35,821," (Jul 15, 1939).
- <sup>45</sup> The Decree N° 2,191 created was would be later called "National Argentine Antarctic Institute." Jack Child, "Antarctica and South American Geopolitics: Frozen lebensraum, (New York, NY: Praeger Publishers), 1988, 67.
- <sup>46</sup> The area includes the Antarctic continent as well as such islands as the South Orkneys. Peter Beck, "The International Politics of Antarctica", (New York, NY: St. Martin's Press, 1986), 119.
- <sup>47</sup> Republic of Chile, "Supreme Decree N° 1747: Chilean Antarctic Territory," dated on November 6, 1940.
- <sup>48</sup> This province belongs to the 12<sup>th</sup> Chilean region, officially named "Magellan and Chilean Antarctica." Luis Merico, "Antarctica: Chile's claim", (Washington, DC: National Defense University Press Publications), 1987, 82.
- <sup>49</sup> "Our security, prosperity and freedom are interconnected and mutually supportive. They constitute our national interests." HM Government, "A Strong Britain in an Age of Uncertainty: The National Security Strategy", (London, UK: HM's Office, 2010), 22. Later, in 2012, the UK defined an additional interest, "sustainability. Foreign and Commonwealth Office (UK), "The Overseas Territories: Security, Success and sustainability," (London, UK: Foreign and Commonwealth Office, 2012)
- <sup>50</sup> Ibid. 27
- <sup>51</sup> The overseas Territories comprise: Anguila; Bermuda; BAT; British Indian Ocean Territory; The British Virgin Islands; The Cayman Islands; Gibraltar; Monserrat; The Pitcairn, Henderson, Ducie, and Oeno Islands; Saint Helena, Ascension and Tristan da Cunha (Including Gough Island Dependency); South Georgia and the South Sandwich Islands; Sovereign Base Areas Akrotiri and Dhekelia (on Cyprus); and The Turks & Caicos Islands. To promote its domain influence over, the UK states "Her Majesty the Queen is sovereign of all the territories" Foreign and Commonwealth Office (UK), "Overseas Territories: Security, success and sustainability", (London, UK: MOD, 2012), 10.
- <sup>52</sup> The BAT comprises almost 13,500 NM of coastline and 480,000 NM<sup>2</sup> of land mass." HM Government, "Securing Britain in an Age of Uncertainty: The Strategic Defence and Security Review," (London, UK: HM's Office, 2010), 2.
- <sup>53</sup> The three British Antarctic Scientific Stations are: Signy Research Station, Rothera Research Station, and Halley VI Research Station, British Antarctic Survey, "BAS Antarctic Research Stations": <https://www.bas.ac.uk/polar-operations/sites-and-facilities/stations/> (Access on November 6, 2015)
- <sup>54</sup> Polar Regions Unit (UK), "British Antarctic Strategy Paper 2014- 2019" (London, UK: Foreign and Commonwealth Office BAT, 2011), pp 1-6.

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- <sup>55</sup> The British key stakeholders are: Antarctic Place Names Committee (APC), BAS, IAATO, Pobjoy Mint Ltd., Royal Society (RGS), Scott Polar Research Institute (SPRI), and UKAHT. British Antarctic Territory: <https://www.gov.uk/government/world/organisations/british-antarctic-territory> (Access on November 5, 2015)
- <sup>56</sup> British Antarctic Survey, "All Projects", <https://www.bas.ac.uk/science/our-research/research-projects/> (Access on November 5, 2015)
- <sup>57</sup> British Antarctic Territory: <https://www.gov.uk/government/world/organisations/british-antarctic-territory> (Access on November 5, 2015)
- <sup>58</sup> BAS, "Business Plan 2014", (Natural Environment Research Council (NERC), 2014)
- <sup>59</sup> Ibid. 19
- <sup>60</sup> Converted on December 8, 2015: <https://www.economiaynegocios.cl>
- <sup>61</sup> Pontificia Universidad Católica de Chile, "Anillos energéticos latinoamericanos, ¿Mito o Realidad?," 2014. [http://web.ing.puc.cl/~power/alumno06/Ring/AnillosEnergeticosLatinoamericanos\\_archivos/page0005.htm](http://web.ing.puc.cl/~power/alumno06/Ring/AnillosEnergeticosLatinoamericanos_archivos/page0005.htm) (Access on November 10, 2015)
- <sup>62</sup> Observatorio de Políticas Públicas del Cuerpo de Administradores Gubernamentales de la Jefatura de Gabinetes de Ministros de Argentina, "Políticas de Defensa y Seguridad Internacional." 2005, 30
- <sup>63</sup> Disposiciones Transitorias, Primera: La Nación Argentina ratifica su legítima e imprescriptible soberanía sobre las Islas Malvinas, Georgias del Sur y Sandwich del Sur y los espacios marítimos e insulares correspondientes, por ser parte integrante del territorio nacional. La recuperación de dichos territorios y el ejercicio pleno de la soberanía, respetando el modo de vida de sus habitantes, y conforme a los principios del derecho internacional, constituyen un objetivo permanente e irrenunciable del pueblo argentino. Republic of Argentina, "National Constitution of Argentina," 1994, 26
- <sup>64</sup> Republic of Argentina, "Decree 2316/1990: Política Nacional Antártica Argentina," (8 November, 1990), 1.
- <sup>65</sup> Dirección Nacional del Antártico: Instituto Antártico Argentino, "Argentine Antarctic Stations." <http://www.dna.gob.ar/INGLES/DIVULGAC/BASES.HTM> (Access on November 20, 2015)
- <sup>66</sup> Ministry of Foreign Relations and Cult (Republic of Argentina), "Annual Antarctic Plan 2015," 207 <http://www.dna.gob.ar/DIVULGAC/PAA1415.HTM> (Access on November 10, 2015)
- <sup>67</sup> Chile tried to publish three national interests in 2012: "prosperity, sovereignty, and security." Chilean Ministry of Defense, "National Security Strategy and Defense," (Santiago, Chile: MDN 2012), 28-31.
- <sup>68</sup> Republic of Chile, "Supreme Decree N° 429: Chilean Antarctic Policy," (28 March 1990).
- <sup>69</sup> INACH, Ministry of Foreign Affairs, "Procién: Chilean Antarctic Science Program 2015". Pp.1-18. <http://www.inach.cl/inach/> (Access November 25, 2015)
- <sup>70</sup> Dirección de Presupuestos del Gobierno de Chile. <http://www.dipres.gob.cl/595/w3-multipropertyvalues-15145-22369.html> (Access on November 25, 2015).
- <sup>71</sup> Converted on December 8, 2015: <https://www.economiaynegocios.cl>
- <sup>72</sup> "UN projections suggest world population will reach 9.2 billion by 2050, compared to 6.9 billion in 2010. In some areas, population growth will outpace the development of stable governance. Poor infrastructure, political exclusion and unemployment, combined with population and resource pressures, caused in part by urbanization, will increase the risk of instability and conflict. By 2030, population increase will mean that global demand for food and energy will rise by up to 50% and water by up to 30%." HM Government, "A Strong Britain in an Age of Uncertainty: The National Security Strategy", (London, UK: HM's Office, 2010), 17.
- <sup>73</sup> "The atmosphere and oceans have warmed, the amounts of snow and ice have diminished, and sea level has risen. The impacts to the human system in the near future would be considerable because the disruption of this ecosystem process would result in scarcity of fresh water, food (particularly in fishery due to the ocean acidification), and energy resources." ICPP, "Climate Change 2014: Synthesis Report 2014", 2014. Pp. 40, 56-74. <http://www.ipcc.ch/report/ar5/wg2/> (Access on December 1, 2015)
- <sup>74</sup> Klaus Dodds, "Pink Ice", (London, UK: I.B. Tauris Publishers, 2002), pp. 191-197
- <sup>75</sup> Peter Beck, "The International Politics of Antarctica", (New York, NY: St. Martin's Press, 1986), pp. 28-36
- <sup>76</sup> The Vergara-La Rosa declaration (1948) states, "Until a settlement is reached by amicable agreement regarding the boundary limits in the adjacent Antarctic territories of the Argentine Republic and Chile... both government will act in mutual agreement in the protection and legal defense of their rights in the South American Antarctic, lying between the meridian 25 and 90 west, within the territories of which the Argentine Republic and Chile are

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- recognized as having unquestionable sovereign rights.” Peter Beck, “The International Politics of Antarctica”, (New York, NY: St. Martin’s Press, 1986), pp. 34-35.
- <sup>77</sup> “Pinochet's other condition was that there must be no attacks launched from Chilean territory. (This rule was inadvertently breached when a British helicopter force-landed in Punta Arenas: Pinochet had the rescued airmen flown back to Britain anonymously). There was every reason for caution. Chile was in the midst of a deep recession and Pinochet at the nadir of his popularity. Argentina's forces were also much stronger than those of Chile. If Argentina had won in the Falklands, Chile would, with or without the secrecy, almost certainly have been attacked. And Chile had no local allies.” Roby Harris, “Thatcher always honored Britain's debt to Pinochet,” (The Telegraph: UK, 2006).
- <sup>78</sup> Jack Child, “Antarctica and South American Geopolitics: Frozen lebensraum, (New York, NY: Praeger Publishers), 1988, 90
- <sup>79</sup> Diego Ramirez Island is a strategic point south of Cape Horn and between mainland South America and the Antarctic Peninsula. Jack Child, “Antarctica and South American Geopolitics: Frozen lebensraum, (New York, NY: Praeger Publishers), 1988, 91.
- <sup>80</sup> Stephen M. Walt, “Why Alliances Endure or Collapse,” Survival 39, No. 1 (January 2009), 163
- <sup>81</sup> The Russian permanent centers are Bellingshausen, Mirni, Novolazarevskaya, and Progress Research Stations. Antarctic connection: Antarctic research stations. <http://antarcticconnection.com/information/antarctica-research-stations/> (Access on November 29, 2015)
- <sup>82</sup> Kelsey Campbell-Dollagan, GIZMODO: “China’s New Research Station and the quiet rush to claim Antarctic” (November 2, 2015). <http://www.gizmodo.com/chinas-new-research-station-and-the-quiet-rush-to-clai-1520284196> (Access on November 30, 2015)
- <sup>83</sup> Jane Perlez: The New York Times, “China, Pursuing Strategic Interests, Builds Presence in Antartida, (May 3, 2015). [http://www.nytimes.com/2015/05/04/world/asia/china-pursuing-strategic-interests-builds-presence-in-antarctica.html?\\_r=0](http://www.nytimes.com/2015/05/04/world/asia/china-pursuing-strategic-interests-builds-presence-in-antarctica.html?_r=0) (Access on November 30, 2015)
- <sup>84</sup> Ibid.
- <sup>85</sup> Sergio Romero, The New York Times: “Country rush for upper hand in Antarctica”. December 29, 2015. [http://www.nytimes.com/interactive/2015/12/29/world/countries-rush-for-upper-hand-antarctica.html?\\_r=0](http://www.nytimes.com/interactive/2015/12/29/world/countries-rush-for-upper-hand-antarctica.html?_r=0) (Access on Jan 1, 2016)
- <sup>86</sup> Ibid.
- <sup>87</sup> Peter Beck notes, “The thorny sovereignty problem was placed “on ice” through the suspension of disputes and the maintenance of the legal status quo.” Peter Beck, “The International Politics of Antarctica”, (New York, NY: St. Martin’s Press, 1986), pp. 67.
- <sup>88</sup> BAS vision: “By 2020, the British Antarctic Survey will be recognized as a world-leading center for polar research and expertise, addressing issues of global importance.” BAS, “Business Plan 2014”, (Natural Environment Research Council (NERC), 2014)
- <sup>89</sup> John Dudeley and David Walton. “Leadership in politics and science within the Antarctic Treaty.” Volume 31, 2012. <http://www.polarresearch.net/index.php/polar/article/view/11075>
- <sup>90</sup> Robert, Kagan, “Not Fade Away: The Myth of American decline,” The New Republic, January 2012.

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